

ABSTRACT OF THE DISCLOSURE

To apply a technique of forming a dense insulating film with a high quality in a thin film element such as a TFT formed on a glass substrate by eliminating an influence of contraction of the substrate caused by heat treatment in a manufacturing process for the element, and a semiconductor device using the same, which enables high performance and reliability. In a step of forming the thin film element composed of a laminate of plural thin films using the glass substrate, in order to avoid a thermal damage on the substrate, heat treatment is performed such that a coating film for absorbing radiation from a heat source is locally formed in a specific portion of the substrate where the thin film element is to be formed. For the substrate to be applied in the present invention, a raw material low in absorptance with respect to the radiation from the heat source and hard to be heated is adopted. Thus, the heat treatment is performed in such a way that the coating film for absorbing the radiation from the heat source is locally formed on a main surface of the substrate and that a target structure is heated through conductive heating from the coating film.